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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,205	11/27/2000	Michael Kalchman	MC010PI	7948

210 7590 06/18/2003

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EXAMINER
LU, FRANK WEI MIN

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Supplemental Action ~~Office Action Summary~~	Application No. 09/701,205	Applicant(s) KALCHMAN ET AL.	
	Examiner Frank W Lu	Art Unit 1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7 and 12-20* is/are pending in the application.

4a) Of the above claim(s) *12 and 15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,13,14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 November 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Supplemental Action

1. Based on reconsidering claims 7, 13, 14, 16, and 17 (see below), the examiner now makes a supplemental action to address written description issue on claims 7, 13, 14, 16, and 17. This supplemental action is used to replace previous action mailed on 6/3/2003.

Election/Restrictions

2. Applicant's election of Group II, claims 7, 13, 14, 16, and 17 filed on March 24, 2003 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Since applicant adds new claims 18-20, claims 7, 13, 14, and 16-20 will be examined.

Information Disclosure Statement

3. The examiner notes that there are a listing of references in the specification. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

4. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required. The first page of WO 99/60986 in this instant application is not considered as a separate abstract sheet.

5. The specification contains web sites. For example, in page 24, lines 13 of the specification, there is http://dot.imgen.bcm.tmc.edu:9331/seq.search/gene. search.html. Thus the disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

6. The disclosure is objected to because of the following informality: (1) "a longer region of cDNA totaling 4795 bases" in lines 12 and 13 in page 5 should be " a longer region of cDNA totaling 4796 bases" since the length of HIP1 cDNA is 4796 bases (see SEQ ID NO: 3); and (2) in several places of the specification, applicant uses "C" to replace "^{0}C". For example, see page 15, last line.

7. The use of the trademark "TRITON" has been noted in this application. For example, see page 16, lines 22 and 23. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Claim Objections

8. Claim 7 is objected to because of the following informality: "SEQ ID Nos." should be "SEQ ID NOs:" in order to correspond to claims 18-20.

9. Claims 13 and 14 are objected to because of the following informality: "SEQ ID No." should be "SEQ ID NO:" in order to correspond to claims 18-20.

10. Claim 7 is objected to because of the following informalities: (1) "an HD-interacting polypeptide" should be "a HD-interacting polypeptide"; and (2) "an HIP-apoptosis modulating protein" should be "a HIP-apoptosis modulating protein".

11. Claim 18 is objected to because of the following informality: Please change "18:" to "18.".

12. Claim 19 is objected to because of the following informality: "claim 19." in the claim should be deleted.

13. Claim 20 is objected to because of the following informalities: (1) "claim 20:" in the claim should be deleted; and (2) "n" before SEQ ID NO: 3 should be "in".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it \pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claims 7, 13, 14, and 16-20 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant is referred to the interim guidelines on written description published on December 21, 1999 in the Federal Register at Volume 64, Number 244, pp.71427-71440.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111 (Fed. Cir. 1991), clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." *Vas-Cath Inc. v. Mahurkar*, 19USPQ2d at 1117. The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed."*Vas-Cath Inc. v. Mahurkar*, 19USPQ2d at 1116.

The specification (page 5 of the specification and Sequencing listing) provides adequate written description for an isolated nucleic acid molecule consisting of the nucleotide sequence of SEQ ID No: 3 and amino acid sequences consisting of SEQ ID Nos: 4 and 5 wherein SEQ ID Nos: 4 and 5 are partial and complete protein sequences of HIP1, which is a HD-interacting protein or HIP-apoptosis modulating protein. However, the specification fails to adequately describe: (1) an expression vector for expression of a gene in a mammalian host comprising any kind of genomic DNA sequence that has an ability to encode SEQ ID Nos. 4 or 5; (2) any kind of isolated nucleic acid molecule encoding an amino acid sequence of SEQ ID NO: 4 as recited in claim 18; (3) any kind of isolated nucleic acid molecule encoding an amino acid sequence of SEQ

ID NO: 5 as recited in claim 19; and (4) any kind of isolated nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO: 3 as recited in claim 20. The claimed inventions as a whole are not adequately described if the claims require essential or critical elements which are not adequately described in the specification and which are not conventional in the art as of Applicants effective filing date. Possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with sufficient relevant identifying characteristics (as it relates to the claimed inventions as a whole) such that a person skilled in the art would recognize that the inventor had possession of the claimed invention. *Pfaff v. Wells Electronics, Inc.*, 48 USPQ2d 1641, 1646 (1998).

In this instant case, an expression vector in claim 7 is read as an expression vector comprising any cDNA or genomic DNA sequence that has an ability to encode an amino acid sequence consisting of SEQ ID Nos. 4 or 5. An isolated nucleic acid molecule recited in claim 18 is read as any kind of isolated nucleic acid molecule that has an ability to encode an amino acid sequence consisting of SEQ ID NO: 4. An isolated nucleic acid molecule recited in claim 19 is read as any kind of isolated nucleic acid molecule that has an ability to encode an amino acid sequence consisting of SEQ ID NO: 5. Since SEQ ID Nos: 4 and 5 are partial and complete protein sequences of HIP1 respectively, an expression vector in claim 7 is read as an expression vector comprising any genomic DNA sequence that has an ability to encode an amino acid sequence consisting of SEQ ID Nos. 4 or 5, an isolated nucleic acid molecule recited in claims 18 can be read as any kind of genomic DNA that has an ability to encode an amino acid sequence consisting of SEQ ID NO: 4, and an isolated nucleic acid molecule recited in claims 19 can be

read as any kind of genomic DNA that has an ability to encode an amino acid sequence consisting of SEQ ID NO: 5 because these genomic DNAs contain partial or all exons of HIP1 cDNA and can encode an amino acid sequence consisting of SEQ ID NO: 4 or an amino acid sequence consisting of SEQ ID NO: 5. Since SEQ ID NO: 3 is a partial cDNA of HIP1 (see page 5 of the specification), claimed partial cDNA do not include a disclosure of any open reading frame of which it would be a part of cDNA and would not be representative of the genus of cDNA because no information regarding the coding capacity of the cDNA molecule is disclosed. Thus an isolated nucleic acid molecule recited in claim 20 is read as an isolated nucleic acid molecule consisting of SEQ ID NO: 3 or any kind of isolated nucleic acid molecule which has SEQ ID NO: 3 and is longer than the nucleotide sequence consisting of SEQ ID NO: 3. Although the specification adequately describes an isolated nucleic acid molecule consisting of the nucleotide sequence of SEQ ID No: 3 and amino acid sequences consisting of SEQ ID Nos: 4 and 5 wherein SEQ ID Nos: 4 and 5 are partial and complete protein sequences of HIP1, claims 7, 13, 14, and 16-20 encompass numerous unknown and unidentified nucleic acids that have polynucleotide sequences adding to 5', and 3' of SEQ ID NO:3 and numerous unknown and unidentified nucleic acids that have an ability to encode an amino acid sequence consisting of SEQ ID NO: 4 or/and 5 that miss from the disclosure. Therefore, the general knowledge and level of skill in the art do not supplement the omitted description because specific, not general, guidance is what is needed.

With limited disclosure provided by the specification, the skilled artisan cannot envision all possible nucleic acid sequences with unknown and unidentified properties and therefore

conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method used. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of identifying it. See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co.* Ltd., 18 USPQ2d 1016 (Fed. Cir. 1991).

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481, 1483. In Fiddes, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only an isolated nucleic acid molecule consisting of SEQ ID No: 3 and cDNAs encoding amino acid sequences consisting of SEQ ID Nos: 4 and 5 meet the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

18. Claims 18 and 19 recite the limitation "the amino acid sequence" in the claims. There is insufficient antecedent basis for this limitation in the claims since no " an amino acid sequence" appears before "the amino acid sequence".

19. Claim 20 recites the limitation "the nucleotide sequence" in the claims. There is insufficient antecedent basis for this limitation in the claim since no "a nucleotide sequence" appears before "the nucleotide sequence".

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 7, 13, 16-18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kalchman *et al.,* (WO 97/18825, published on May 29, 1997).

The inventions are directed to an expression vector, a host cell, and an isolated nucleic acid molecule. Claim 7 requires that an expression vector for expression of a gene in a mammalian host comprising a region encoding a HD-interacting polypeptide wherein the HD-interacting polypeptide is a HIP-apoptosis modulating protein that has a sequence which includes an amino acid sequences given by SEQ ID Nos. 2, 4, 5 or 7. Claim 13 requires that the HIP-apoptosis modulating protein has a sequence which includes SEQ ID No. 4. Claim 16 requires that a host cell comprising the expression vector of claim 7. Claim 17 further limits claim

16 and requires that the host cell is a mammalian cell. Claim 18 requires that an isolated nucleic acid molecule can encode a amino acid sequence of SEQ ID NO:4. Claim 20 requires an isolated nucleic acid molecule comprising a nucleotide sequence as set forth SEQ ID NO:3. SEQ ID NOs:3 and 4 are partial HIP1 cDNA with 4796 nucleotides and its corresponding protein sequence with 914 amino acids (HIP1) respectively (see specification, lines 3-14 in page 5 and SEQ ID Nos: 3 and 4).

Kalchman *et al.,* teach protein which interacts with the Huntington's disease gene product, cDNA coding therefor, and antibodies thereto. The HIP1 cDNA sequence (SEQ ID NO: 5), which was 4796 nucleotide long, was translated into a polypeptide with 914 amino acids (see lines 3-8 in page 5 and SEQ ID Nos: 5 and 6 in page 25-31). Although it appeared that SEQ ID Nos: 5 and 6 had 4846 nucleotides and 924 amino acids respectively, in fact, there were mistakes in sequence numbers when Kalchman *et al.,* numbered SEQ ID Nos; 5 and 6 wherein nucleotides 3901-4796 in SEQ ID NO: 5 was numbered as nucleotide 3951-4846 and amino acids 751-914 was numbered as amino acids 761-924, the examiner has renumbered nucleotide and amino acid sequences in SEQ ID NO: 5 and SEQ ID NO: 6 respectively (see pages 27, 30, and 31).

Regarding claims 7, 13, 18, and 20, comparison of nucleotide sequences between SEQ ID No: 5 in the reference of Kalchman *et al.,* and SEQ ID No: 3 recited in claim 20 and comparison of amino acid sequences between SEQ ID No: 6 in the reference of Kalchman *et al.,* and SEQ ID No: 4 recited in claim 18 show that SEQ ID NO: 5 in the reference of Kalchman *et al.,* is identical to SEQ ID No: 3 recited in claim 20 while SEQ ID NO: 6 in the reference of Kalchman *et al.,* is identical to SEQ ID No: 4 recited in claim 18. Since an isolated nucleic acid molecule

recited in claim 18 is read as any kind of isolated nucleic acid molecule that has an ability to encode an amino acid sequence consisting of SEQ ID NO: 4 and an isolated nucleic acid molecule recited in claim 20 is read as an isolated nucleic acid molecule consisting of SEQ ID NO: 3 or any kind of isolated nucleic acid molecule which has SEQ ID NO: 3 and is longer than the nucleotide sequence consisting of SEQ ID NO: 3, and SEQ ID NO: 5 in the reference of Kalchman *et al.,* is HIP1 cDNA with 4796 nucleotides and encodes a polypeptide with 914 amino acids (SEQ ID NO:6), claims 18 and 20 are anticipated by Kalchman *et al.*. Since Kalchman *et al.,* states that " because more of the expanded forms of the HD protein may be available for cleavage (and subsequent apoptosis) due to the fact they are not as tightly associated at the HD-HIP1-cytoskeletal complex" (see page 7, lines 5-10), HIP1 taught by Kalchman *et al.,* is a HD-interacting polypeptide or a HIP-apoptosis modulating protein as recited in claim 7. Since DNA encoding HIP 1 taught by Kalchman *et al.,* is cloned into an expression vector (see page 7, last paragraph) and an expression vector recited in claim 7 is read as an expression vector comprising a region encoding a HIP-apoptosis modulating protein having SEQ ID NO: 4, claims 7 and 13 are anticipated by Kalchman *et al.*.

Regarding claims 16 and 17, DNA encoding HIP 1 in an expression vector is introduced into a mammalian cell such as brain cells (see page 7, last paragraph) and the mammalian cell is a host cell, claims 16 and 17 are anticipated by Kalchman *et al.*.

Kalchman *et al.,* teach all limitations recited in claims 7, 13, 16-18, and 20.

Conclusion

22. No claim is allowed.

23. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is either (703) 308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (703) 305-1270. The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119.

Any inquiry of a general nature or relating to the status of this application should be directed to the patent Analyst of the Art Unit, Ms. Chantae Dessau, whose telephone number is (703) 605-1237.

Frank Lu
June 11, 2003